

Impingement Syndrome (Rotator cuff tendonitis)

Non-operative treatment

Impingement of the rotator cuff can be both anatomical and kinesiological in nature. It is best treated when any kinesiological disturbances are treated first. This is usually accomplished by muscle balancing and specific muscle training. This includes rest at the appropriate time and the use of non-steroidal anti-inflammatories (NSAID's). Proper training of the rotator cuff muscles for balance to provide good scapulohumeral rhythm and conditioning of the rotator cuff and scapular muscles is critical. An anatomic limitation to this program may be an underlying instability. This must be considered when following this program.

Phase 1-Acute phase

Goals:

- Limit pain (relative rest-avoiding provocative activity)
- Restore any lost motion
- Restore function to achieve ADL's for personal hygiene

Treatment recommendations:

- Ice, sling if needed, electrical stimulation, gentle mobilization, NSAID's

Precautions:

- Elimination of rest pain should be achieved quickly

Phase 2-Subacute phase

Goals:

- Restore full motion
- Restore good glenohumeral and scapulohumeral rhythm
- 4/5 strength of upper extremity muscles

Treatment recommendations:

- Start with active range of motion below shoulder level
- Add isometrics below shoulder level
- Theraband and light resistive activities below shoulder level
- Specific focus on internal and external rotators
- Active motion above shoulder when strong resisted strength below 90 is present
- Progress strengthening overhead from active to slight active to lightweight active resistive range of motion
- Resistive fist, wrist, forearm, and elbow work included
- Upper extremity ergometer and water resistive activities used

Precautions:

- All active and resistive motion should be muscle specific
- Isometrics may need to be altered to not aggravate instability, if present

Phase 3-Strengthening phase**Goals:**

- Achieve 5/5 strength in all shoulder girdle muscles
- Full pain free range of motion and resistive range of motion
- Negative apprehension, negative Neer, negative Hawkins signs
- Perfect symmetrical scapulohumeral rhythm

Treatment recommendations:

- Continue with all exercises and progress resistance to overhead and above horizontal
- Add resistance to scapular exercises and work on balance of rotator cuff muscles
- Work on quality of motion, not just resistive training
- Add trunk strengthening in both lower extremities training
- Start sport specific/work specific activities
- Weight bearing upper extremity and water resistive exercises
- Manual mime resistance as though working against a mirror image through both upper extremities to work trunk

Precautions:

- Do not forget entire body
- Avoid any ballistic activities or end ranges of motion that would facilitate an underlying instability

Phase 4-Criteria for return to sport/work**Goals:**

- Full painless range of motion
- 5/5 strength in all upper extremity and scapular muscles with good endurance
- Normal scapulohumeral rhythm including resistance
- Good trunk and lower extremity strength
- Able to complete throwing sport specific or work tasks without pain or instability

Precautions:

- It should be noted that time frames for these phases and overlap time frames cannot be given. It is based on exercise intensity, pain, underlying instability, acute versus chronic condition, length of time immobilized, performance and activity

- Rehabilitation should be progressive, always achieving a pain-free state and always acutely aware of any underlying instabilities
 - Goal is directed towards achieving a functional limb without aggravating any underlying instability or anatomical limitations